

MATHEMATICS CROSSWALK
2008 DRAFT MATHEMATICS STANDARD TO 2003 MATHEMATICS STANDARD
Kindergarten

MATHEMATICS STANDARD ARTICULATED BY GRADE LEVEL				
Strand 1: Number and Operations				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
1. Number Sense	1	Express numbers to 20 using and connecting multiple representations, including: <ul style="list-style-type: none"> • objects, • pictures, • spoken words, and • numerals. 	1	Make a model to represent a given whole number 0 through 20.
			2	Identify orally a whole number represented by a model with a word name and symbol 0 through 20. (Say 3 and write number 3 when presented with three objects.)
			4	Identify whole numbers through 20 in or out of order.
			5	Write whole numbers through 20 in or out of order.
	2	Apply counting to 20 using different starting points: <ul style="list-style-type: none"> • counting aloud forward to 20, • counting aloud backward from 10 (with or without objects), and • using one-to-one correspondence. 	3	Count aloud, forward to 20 or backward from 10, in consecutive order (0 through 20).
	3	Identify one more/one less than a given number up to 20.*		
	4	Compare two numbers and order three or more whole numbers through 10 using objects, pictures, numerals, and comparative language (more, less, same, equal, greater, bigger, smaller, etc.).	7	Compare two whole numbers through 20.
			9	Order three or more whole numbers through 20 (least to greatest or greatest to least).

* This performance objective is new to the 2008 Draft Mathematics Standard Articulated by Grade Level.

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Strand 1: Number and Operations				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
1. Number Sense	5	Recognize and compare the ordinal position of at least five objects.	8	Recognize the ordinal numbers through fifth (e.g., first, second, third).
		REMOVED	10	Identify penny, nickel, dime, quarter, and dollar by using manipulatives or pictures.
2. Numerical Operations	1	Solve contextual problems by developing, applying, and recording strategies with sums and minuends through 10 using objects, pictures, and symbols.	3	Select the operation to solve word problems using numbers 0 through 9.
			4	Solve word problems presented orally using addition or subtraction with numbers through 9.
	2	Develop and use multiple strategies to determine: <ul style="list-style-type: none"> • sums through 10 and • difference with minuends up to 10. 	1	Model addition through sums of 10 using manipulatives.
			2	Model subtraction with minuends of 10 using manipulatives.
			5	Identify the symbols: +, -, =.
		REMOVED	6	Use grade-level appropriate mathematical terminology.
3. Estimation	1	Estimate quantities up to 20 using 5 and 10 as benchmarks. *		
		REMOVED	1	Solve problems using a variety of mental computations and reasonable estimations.

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Strand 2: Data Analysis, Probability, and Discrete Mathematics				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
1. Data Analysis (Statistics)	1	Construct simple displays of data using objects and/or pictures. *		
	2	Interpret data by counting, comparing, and answering questions on simple displays of data.	2	Interpret a pictograph.
			3	Answer questions about a pictograph.
		REMOVED	1	Formulate questions to collect data in contextual situations.
		REMOVED	4	Formulate questions based on data displayed in graphs, charts, and tables.
		REMOVED	5	Solve problems based on simple graphs, charts, and tables.
2. Probability		No performance objectives at this grade level.		
3. Discrete Mathematics – Systematic Listing and Counting	1	Sort, classify, count, and represent small numbers of objects and justify the sorting rule.	S5C2-01	Sort objects according to observable attributes.
			S5C2-02	Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).
	2	Find possibilities in simple counting situations through exploration and modeling.	1	Make arrangements that represent the number of combinations that can be formed by pairing items taken from 2 sets, using manipulatives (e.g., How many outfits can one make with 2 different color shirts and 2 different pairs of pants?).

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Strand 2: Data Analysis, Probability, and Discrete Mathematics				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
4. Discrete Mathematics – Vertex-Edge Graphs	1	Color simple pictures using the fewest number of colors (regions that share a common edge should be colored differently).	1	Color pictures with the least number of colors so that no common edges share the same color (increased complexity throughout grade levels).
	2	Identify the number of regions in a simple picture or figure.*		

Strand 3: Patterns, Algebra, and Functions				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
1. Patterns	1	Recognize, describe, extend, create, and record simple repeating patterns.	1	Communicate orally a grade-level appropriate pattern.
			2	Extend simple repetitive patterns using manipulatives.
			3	Create grade-level appropriate patterns.
	2	Recognize, describe, extend, and record simple growing patterns.*		
2. Functions and Relationships		No performance objectives at this grade level.		
3. Algebraic Representations	1	Record equivalent forms of whole numbers to at least 10 by constructing models and using numbers.*		
	2	Describe relationships between quantities using spoken words and “=”.*		
4. Analysis of Change		No performance objectives at this grade level.		

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Strand 4: Geometry and Measurement				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
1. Geometric Properties	1	Identify circles, triangles, and rectangles (including squares) in different orientations and environments (e.g., nature, buildings, and classroom).	3	Identify shapes in different environments (e.g., nature, buildings, classroom).
	2	Build, draw, compare, describe, and sort 2-dimensional shapes (including non-standard shapes) using attributes.	1	Identify 2-dimensional shapes by attribute (size, shape, number of sides).
	3	Analyze and describe objects or figures by proximity, position, and direction.*		
2. Transformation of Shapes		No performance objectives at this grade level.		
3. Coordinate Geometry		No performance objectives at this grade level.		
4. Measurement	1	Compare and order objects according to observable and measurable attributes.	3	Order objects according to observable and measurable attributes.

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Strand 4: Geometry and Measurement				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
4. Measurement	2	Use the attribute of length to describe and compare objects using non-standard units: <ul style="list-style-type: none"> • demonstrate the process of iteration using multiple constant units, • demonstrate the process of iteration using one unit multiple times, • estimate length to the nearest whole unit, and • use the same non-standard unit to compare the lengths of two objects. 	1	Verbally compare objects according to observable and measurable attributes.
		REMOVED	2	Communicate orally how different attributes of an object can be measured.

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Strand 5: Structure and Logic				
CONCEPT	2008 PO	ITEM DESCRIPTION	2003 PO	ITEM DESCRIPTION
1. Algorithms and Algorithmic Thinking		No performance objectives at this grade level.		
2. Logic, Reasoning, Arguments, and Mathematical Proof	M00-S2C3-01	Moved to Strand 2 Concept 3	1	Sort objects according to observable attributes.
			2	Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).
	1	Develop the problem solving strategy of acting it out.*		
	2	Create word problems based on sums to 10 and differences with minuends to 10.*		

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